

# METHOD AND APPARATUS FOR MANAGING THE INTEGRITY OF DATA IN A NON-VOLATILE MEMORY SYSTEM

## ABSTRACT

Methods and apparatus for encoding data associated with a page by dividing the  
5 page into segments and separately encoding the segments using extended error correction  
code (ECC) calculations are disclosed. According to one aspect of the present invention,  
a method for encoding data associated with a page which has a data area and an overhead  
area within a non-volatile memory of a memory system includes dividing at least a part  
of the page into at least two segments of the data, the at least two segments of the data  
10 including a first segment and a second segment, and performing ECC calculations on the  
first segment to encode the first segment. The method also includes performing the ECC  
calculations on the second segment to encode the second segment substantially separately  
from the first segment.